



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/WNo.17/KS/SDBC/AIV/2014-15

03.05.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	Asst. Executive Engineer, Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	Mr. K. Shivakumar, Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
Source / Location	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	03.05.2014



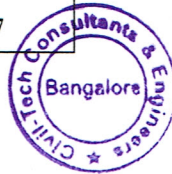
Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	381	386	21.77
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	82	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	301	
4	Aggregate Impact value = percent fines $100 * (W_2 / W_1) \%$	21.52	22.02	

Comments:

→ Maximum allowable Aggregate Impact value for Semi Dense Bituminous Concrete is 27%

Note:

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- ⌞ The results indicated above are based on the tests carried out on the samples received in the laboratory
- ⌞ Any Query regarding the report must be reported within 30 days from the date of testing



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Job No.: CTCE/BBMP/WNo.17/KS/SDBC/Shape_T/2014-15

03.05.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	Asst. Executive Engineer, Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	Mr. K. Shivakumar, Contractor, Bangalore.
Name of Work	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
Technical Reference	IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	03.05.2014



Result : Flakiness Index = 11.24%

Elongation Index = 13.53%

Result : Combined Flakiness & Elongation index

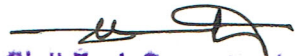
24.77%

Comments:

→ Maximum allowable Flakiness & Elongation Index for Semi Dense Bituminous Concrete is 30%

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Job No.: CCTCE/BBMP/WNo.17/KS/SDBC/Stripping/2014-15

05.05.2014

Stripping Value of Road Aggregates (Static Immersion Test)

IS: 6241

Client	Asst. Executive Engineer, Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	Mr. K. Shivakumar, Contractor, Bangalore.
Name of the work	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	05.05.2014



Type of binder : 60/70
Percentage of binder used : 5.0% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.0 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	2.7	2.90	97.10
2	2.9		
3	3.1		



Comments:

→ Minimum allowable Aggregate retained coating for Semi Dense Bituminous Concrete is 95%

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Job No.: CTCE/BBMP/WNo.17/KS/SDBC/Sp_Wa/2014-15

05.05.2014

Specific Gravity And Water Absorption Test

IS: 2386 Part III

Client	Asst. Executive Engineer, Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	Mr. K. Shivakumar, Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
Type of Mix	Semi Dense Bituminous Concrete
Source / Location	Hotmix Plant, Bangalore
Date of Testing	05.05.2014



Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	$W_1 g$	2025	2027	2030	
2	Weight of basket suspended in water	$W_2 g$	750	750	750	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s g$	1275	1277	1280	
4	Weight of saturated surface dry aggregate in air	$W_3 g$	2032	2045	2048	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_s) g$	757	768	768	
6	Weight of oven dried aggregate	$W_4 g$	2021	2030	2035	
7	Specific Gravity	$W_4 / (W_3 - W_s)$	2.670	2.643	2.650	2.654
8	Apparent Specific gravity	$W_4 / (W_4 - W_s)$	2.709	2.696	2.695	2.700
9	Water Absorption	$((W_3 - W_4) * 100) / W_4$	0.54%	0.74%	0.64%	0.64%

Comments:

→ Maximum allowable Aggregate Water absorption value for Semi Dense Bituminous Concrete is 2.0%

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